EXPORT PROMOTION OF
ORGANIC PRODUCTS FROM AFRICA

Organic, non-treated and non GMO seed and planting material

Tanzania, Uganda and Zambia

December 2005

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Glossary

CBSP:	Community Based Seed Production
Certified Seed:	Seed certified according to the National Seed Regulations
Certified Organic Seed:	Seed or planting materials used to propagate plants that have undergone organic certification.
GE:	Genetic Engineering
GMO:	Genetic Modified Organism
Informal Seed Structure:	Non officially certified seed that is kept or shared with farmers for the next planting season
IFOAM	International Federation of Organic Agriculture Movements
NOP	National Organic Program legislation for organic agriculture in USA
QDS:	Quality Declared Seed
TOSCA:	Tanzanian Official Seed Certification Agency
Treated seed:	Chemically treated seed not allowed in organic agriculture.

Executive Summary

Organic standards and regulations require the use of organic seed and/or planting materials, wherever they are available. In the last few years EPOPA and organic producers in Africa have been facing increasing pressure from the certification bodies to use certified organic planting materials and/or seed. This report was initiated by the needs of EPOPA, but the results should be useful to all organic producers and certification agencies active in Sub-Saharan Africa.

The standards and regulations of IFOAM, KRAV, Naturland, Soil Association, EU, USA (NOP) and UgoCert were examined to ascertain the types of planting materials and/or seed permitted by them. However, in the absence of organic seed and/or planting materials and under certain conditions defined by the certification body, some do allow the use of non-treated seed. The standards and regulations were also screened to ascertain their views on the use of GMO contaminated seed.

It is also important for EPOPA to be aware of the national seed and planting materials legislation in the participating countries of Uganda, Tanzania and Zambia. In some countries, seeds can only be mentioned as such when the national institution seed certifiers certify them. Beside the formal seed structures there are informal seed structures, which provide 90% of the seed and/or planting materials of the farmers. These informal structures can be defined as the ways in which farmers keep and share their seeds for the next planting season.

After looking into different standards and regulations, the report looked into the availability of different types of seeds and planting materials. Investigations were done on the availability of organic seed in the EPOPA countries. Also, the availability of non-treated, treated and non-GMO contaminated seeds and planting materials were investigated. Crops that had undergone genetic engineering were listed.

In most cases, organic or non-treated planting materials/seeds from their own propagation or from the informal seed system are used in the EPOPA projects. Treated seeds are mainly used in vegetable gardens, but GMO seeds are not used within the projects.

The main conclusions of the report are:

- that the certification bodies and import authorities accept that there is a need for conventional seeds until there is an operating market for organic seeds. This means that African farmers operate under the same conditions as European or American farmers, who were free to use conventional seeds during the initial decades of development of the organic sector to where it is now.

- there are large cultivated areas certified as 'organic by default' from which organic seed / planting materials can be collected according to the informal

seed structure. Plans should be developed to make better use of the organic seed/planting materials that are available within the countries.

- certification bodies and import authorities should understand the difficulties in documenting the informal seed market, and should accept general research (such as this report) as the basis for dealing with projects instead of insisting on data collection from individual smallholder farms. This means that the certified operator can then provide a general survey of the conditions in a particular area instead of documenting the seed use of individual farmers.

1. Introduction

In recent years, EPOPA projects have been facing increasing pressure from certifying bodies to use organic seed and seedlings. E.g. Naturland needs, in the absence of organic certified seeds, proof that organic seeds are not available; KRAV standards state that "organic certified seeds and propagation materials for annual and biennial plants shall be used whenever possible". Only seeds certified by KRAV may be used by 2010, at the latest.

Other standards require that non organic seeds used must not be treated (coated) with chemical pesticides. Seeds, plants or other propagation material must also not originate from genetically modified organisms (GMO). However, regulations are not clear whether the requirement only concerns the exported cash crop, or all crops grown on the organic farms, including a variety of food and feed crops for the farmer's use. For this reason, EPOPA should promote the use organic seed / planting material throughout the entire farm.

In many (developing) countries, farmers select, save and re-use seeds from one year to the next. Saving seeds is as natural and essential as eating. By collecting seeds or other planting materials like clones and cuttings from mature plants, farmers ensure crop continuity.

The objective of this study is to obtain a qualified answer to the repeated requests from certifiers regarding the availability of organic seeds and seedlings and, in case non-organic seeds/seedlings are used, whether they are untreated ones and non-GMO as well. Furthermore, it is documented in such a way that it can be both a guide to the exporters and Project Leaders, and also a communiqué to certification bodies and import authorities to justify how activities are carried out in EPOPA projects. Ultimately, it is hoped that this report will be of use to authorities in importer countries when they measure the equivalency of organic products exported from Africa. The standard-setters in the region can also benefit from having an accurate description of the state of the art, in order to set realistic standards. Finally, it will assist organic projects to progress towards an increasing use of organic seeds and planting materials.

Investigations were carried out in Uganda, Tanzania and Zambia. Seed companies in these countries as well as those in other Eastern and Southern African countries were contacted too.

2. Standards and regulations requirements

2.1 Introduction

This chapter covers two areas - standards set for the use of organic seeds and planting materials and the implementation of these standards by five certification bodies active in Africa which are Naturland, IMO, KRAV, EcoCert and the Soil Association.

Seven different standards/legislations were compared regarding their standards for seeds and planting materials. They were the IFOAM Basic Standards, the KRAV, Naturland, UgoCert and Soil Association standards as well as the EU and US regulations for organic production.

It has to be remembered that all the standards/regulations are (mainly) written for the certification body's own country or region. For example, Naturland standards are for Germany, the Soil Association Standards are for UK and the EU-regulation is for the EU. The notion that the standard be used in other parts of the world is rarely incorporated in any specific standard. However, the different conditions peculiar to any of these countries or regions are normally mentioned. For example, the EU-regulation states that standards and inspection should be equivalent, the NOP (National Organic Program, US-legislation) is concerned about equivalent organic programmes while the KRAV standards refer to the IFOAM Basic Standards.

The standards/legislations on four major topics have been compared:

- Organic seeds and planting materials
- Conventional seeds and planting materials
- Treated seeds and planting materials
- GMO contamination

The implementation of the standards/legislations was investigated mainly by obtaining written documentation from the certification bodies, and examining certification decisions.

In Annex 1, the different standards sections on seeds and planting materials are included.

Information about the practical application of seed standards were taken from these documents - IMO (2004), EcoCert (2003), Naturland (2004), a public explanation by USDA about NOP, a precedent set by KRAV (2002) and oral communication with KRAV and the Soil Association in the spring of 2004.

2.2 Requirements in standards and regulations

Below is an outline of the requirements in the relevant standards. The reader should note that it is necessary to read all the sections to get a complete picture because there might be interpretations made by the certification bodies which

are not available elsewhere. On top of that, it is not always clear which sanction should apply for production that is not in total conformity. For example, the use of non-organic seed will normally only lead to loss of certification of the actual crop but the land is not put back into conversion. However, some certifiers would view the use of a non-organic treated seed as worthy of stricter punitive measures.

Organic seeds and planting materials

IFOAM: *Organic seeds and planting materials of appropriate varieties and quality shall be used.*

KRAV: *KRAV-certified seeds, plants and propagation materials for annual and biannual plants shall be used whenever possible.* (The EU-regulation and the provisions for seeds are referenced in the Standards text.)

Naturland: *The seed and planting material applied must - as far as available - be certified by Naturland or meet certification standards approved as equivalent by Naturland. If this is not available, a notice and proof of its non-availability needs to be given.*

All seedlings needed on any farm have to be grown in its own nursery or bought from farms that are certified by Naturland or from farms that meet certification standards approved as equivalent by Naturland. (The EU-regulation and the provisions for seeds are referenced in the Standards text.)

Soil Association: *The use of transplants from non-registered holdings is prohibited.* (The EU-regulation and the provisions for seeds are referenced in the Standards text.)

EU*: Only seed or vegetative propagating material produced by the organic production method is used.*

NOP: *The producer must use organically grown seeds, annual seedlings, and planting stock.*

UgoCert: *Organic seed and planting materials of appropriate varieties and quality shall be used.*

Conventional non-treated seeds and planting materials

IFOAM: *When organic seed and planting materials are not available, conventional non-chemically treated seeds and planting materials shall be used.*

KRAV: *KRAV-certified seeds, plants and propagation materials for annual and biannual plants shall be used whenever possible.*

Naturland: *The seed and planting material applied must - as far as available - be certified by Naturland or meet certification standards approved as equivalent by Naturland. If this is not available, a notice and proof of its non-availability needs to be given.*

Soil Association: *Restricted. The use of non-organic seeds, vegetative propagating material such as potato tubers, onion sets, strawberry runners and fruit tree rootstock and bud material is restricted.*

EU: *According to the EU-regulation; an organic seedling can come from untreated seed that is sown on substrate accepted in organic production and the seed is brought up with organic management.* The definition of seedling is not clear in the EU-regulation.

Use of seed or seed potatoes not obtained by the organic production method.
Member States may, pursuant to the procedure set out in Article 5 of the seed regulation, authorise the use of seed or seed potatoes not obtained by the organic production method, provided that the seed or seed potatoes are:

(a) not treated with plant protection products, other than those accepted for treatment of seed in part B of Annex II, to Regulation (EEC) No 2092/91

Conditions for granting authorisations. *(This text is shortened and rewritten to make reading easie.)*

1. *Authorisation to use conventional seed or seed potatoes may only be granted in the following cases:*
   - *(a) if no variety of the species that the user wants to obtain is registered in their database;*
   - *(b) if no supplier is able to deliver the organic seed or seed potatoes before sowing or planting in situations where the user has ordered the seed or seed potatoes in reasonable time;*
   - *(c) if the variety which the user wants to obtain is not registered, and the user is able to demonstrate that none of the registered alternatives of the same species are appropriate and that the authorisation therefore is significant for his production;*
2. *The authorisation shall be granted before the sowing of the crop.*
3. *The authorisation shall be granted only to individual users for one season at a time and the quantities of seed or seed potatoes authorised shall be registered.*
4. *The competent authority of the Member State may grant to all users a general authorisation for species that are not registered in the database or a variety when producers can show that the varieties in the database are not appropriate.*

The EU does not allow conventional seedlings unless the conventional seedlings have gone through a conversion period that follows the same conditions for the conversion of land. A conventional coffee seedling can be planted on organic land and after three complete growing seasons the yield is organic.

The EU member states have created databases in order to have information about the availability of organic seed and planting materials. The databases apply to the use of seed and planting materials within the EU. When making the new derogation for seeds and potatoes in EC no1452/2003 it was not discussed at all how the new conditions (e.g. database) can be applied to countries outside the EU (third countries).

In the EU-regulation it is stated that the standards and the inspection of organic production should be equivalent to the EU-regulation. But, sources in the commission and the Members states have explained that they don't insist that

exporting countries establish this kind of sophisticated system, and that the EU regulation doesn't have to be followed in detail. However, the certification bodies need to see to the daily interpretation of the regulation.

NOP: *Non-organically produced, untreated seeds and planting stock may be used to produce an organic crop when an equivalent organically produced variety is not commercially available.*

Non organically produced seeds and planting stock that have been treated with a substance included on the National List of synthetic substances allowed for use in organic crop production may be used to produce an organic crop when an equivalent organically produced or untreated variety is not commercially available;

Non organically produced annual seedlings may be used to produce an organic crop when a temporary variance has been granted in accordance with § 205.290(a)(2); (Damage caused by drought, wind, flood, excessive moisture, hail, tornado, earthquake, fire, or other business interruption)

Non organically produced planting stock to be used to produce a perennial crop may be sold, labelled, or represented as organically produced only after the planting stock has been maintained under a system of organic management for a period of no less than 1 year.

UgoCert: *When organic seed and planting materials are not available, conventional materials may be used provided that they have not been treated with pesticides not otherwise permitted by these standards.*
After 2008 only organic sowing seed and planting material (both for annual and perennial crops) shall be used.

Treated seeds and planting materials

The word "treated" is used as an abbreviation for "treated with chemicals not allowed in organic agriculture".

IFOAM: *When untreated conventional seeds and planting materials are not available, chemically treated seeds and planting materials may be used.*

KRAV: *Seeds may not be treated (coated) with chemical pesticides or herbicides. Perennials and other propagation material shall be KRAV certified if the harvest is to be sold as certified sooner than 18 months after planting.*

Naturland: *The use or dressing of seeds or of planting material with synthetic chemical pesticides is not permitted.*

Soil Association: *If permission has been granted to use non-organic propagating material, these must where possible have been treated only with products included in chapter 2. Any permission given is valid for that year only. The onus is on the licensee purchasing the non-organic seed to obtain the derogation from the certification body.*

EU: *EU can allow chemically treated seed and seed potatoes if chemical treatment is prescribed in accordance with Council Directive 2000/29/EC(3) for phytosanitary purposes by the competent authority of the Member State for all varieties of a given species in the area where the seed or seed potatoes are to be used. Other reasons for use of chemically treated seeds are not allowed.* The interpretation of what can be counted as equivalent to the prohibition of treated seeds is not clear.

The EU member states have created databases to track the availability of organic seed and planting materials. When making the new derogation for seeds and potatoes in 1452/2003 it was not discussed how the new conditions (e.g. database) can be applied to countries outside the EU (third countries). In the EU-regulation it is stated that the standards and the inspection of organic production should be equivalent to the EU-regulation. The EU action plan for organic production makes a statement about "equivalence" and that allows for a process of development in countries where organic production is in its infancy.

NOP: *Seeds, annual seedlings, and planting stock treated with prohibited substances may be used to produce an organic crop when the application of the materials is a requirement of Federal or State phytosanitary regulations.*

UgoCert: *Where untreated conventional seeds and planting materials are not available, chemically treated seed and planting material may be used. The producer has to prove to UgoCert that chemically untreated seeds and planting material are not available.*

GMO seeds and planting materials

IFOAM: *The use of genetically engineered seeds, pollen, transgene plants or planting material is not allowed.*

KRAV: *Seed, plants or other propagation material may not originate from genetically modified organisms.*

Naturland: *Genetically modified organisms (GMO) and their derivatives are incompatible with organic cultivation. Products that are produced in compliance with these Naturland standards must be made without the employment of genetically modified organisms (GMO) and/or GMO derivatives. A "GMO derivative" is any material, which is produced from or by GMOs but does not contain GMOs. "Employment of GMO and GMO derivatives means their employment as foodstuffs, food ingredients (including additives and flavourings), processing aids (including extraction solvents), fodder, compound fodder, feed materials, feed additives, processing aids for fodder, certain products used in animal nutrition, plant-protection products, fertilizers, soil improvement agents, seeds, vegetative reproduction materials and animals.*

Soil Association: *Varieties of seed that have been produced using genetic engineering is prohibited.*

EU: *Genetically modified organisms and/or any product derived from such organisms must not be used.*

NOP: *Excluded methods are cell fusion, micro-encapsulation and macro-encapsulation, and recombinant DNA technology (including gene deletion, gene doubling, introducing a foreign gene, and changing the positions of genes when achieved by recombinant DNA technology). Such methods do not include the use of traditional breeding, conjugation, fermentation, hybridisation, in vitro fertilization, or tissue culture.*

UgoCert: *The use of genetically modified organisms or their derivatives is strictly prohibited.*

GMO contamination

None of the standards contains any clear language about GMO contamination. It is not mentioned at all in the NOP or EU regulations. The most elaborated position is developed by IFOAM. Their position states the following:

IFOAM is opposed to any approach that forces organic producers to bear the burden of problems caused by others. It is IFOAM's position that the responsibility for GE (Genetic Engineering) gene contamination lies with the polluters. The producers and the users of GMOs must be held fully responsible for the spread of the GMOs and their properties. Organic farmers should not have to prove that their crops are uncontaminated. Governments are urged to pass legislation that makes GMO companies liable for all genetic pollution caused by the products they own, and to establish satisfactory buffer zones between GMO crops and any other crops.

This approach is not predicated on the de-certification of organic producers due to contamination, but rather on the right of all farmers not to have their farms contaminated by genetic pollution. The potential of GMO contamination does not alter the traditional approach of certifying organic as a "production method" rather than an end-product guarantee. Organic products are not defined or certified as being "free" of unwanted pollution. Just as organic farmers cannot guarantee zero contamination from pesticides they don't use themselves, there is no way for them to guarantee that organic products will not be polluted by traces of GMOs.

Contamination that results from circumstances beyond the control of the operator will not necessarily alter the organic status of the operation. The level of such unavoidable contamination will range from non-detectable to very low, depending on a number of factors, most of them outside the control of the producers. Any defined threshold will be chosen arbitrarily and does not reflect adherence to organic principles. Therefore IFOAM does not support the introduction of minimised thresholds for genetic contamination. Because of this, mandatory testing for genetic contamination should not be introduced for the verification of organic production. However, testing is a tool available to certification bodies to utilise in certain specified situations, such as when

negligence or fraud is suspected or to assess if established safeguards are sufficient.

Nevertheless, organic producers and operators shall take all reasonable measures to minimise and manage the risk of contamination. This is especially important for seed, because if the seeds used by organic producers are contaminated, it has an impact on future production. Special efforts shall be made by organic producers to ensure that the seeds they use are not contaminated. Organic certification bodies shall assure that all operators implement the necessary precautionary measures, and if needed, assist operators with generic advice and information. Organic sector associations shall assist their members to obtain uncontaminated seeds. IFOAM should in turn assist with this on the global level.

With GMO contamination it is not so much the standards but the market that defines the limit: even if (small) GMO contamination were permissible from a standards perspective, it is not likely to be accepted by the buyers, especially not in certain EU countries. This is probably less of a problem in the USA as there is widespread cultivation of GMO crops in the USA, and therefore contamination is more likely to occur.

2.3 Practical application

The documentation on how the certification bodies interpret and implement their own standards varies a lot. The practical applications concerning organic, conventional untreated, treated and GMO seeds from the different certifying bodies are described below. IMO has the most extensive documentation on how standards and regulations on seeds and propagation materials were interpreted in areas outside the written standards/ regulation .

KRAV: KRAV accepts the use of untreated or treated seeds, if the producer can prove conclusively that organic seed is not available.

Naturland: If a producer wants to use conventional seeds, Naturland must be notified beforehand. If the producer defaults on this a second time, he will receive a warning or serious notification.

If treated seed has been used, the product cannot be certified. The use of treated seeds for crops grown for home consumption is acceptable if organic (or untreated) seeds are not available.

IMO: Conventional seeds and planting stock can be used if one has sufficient proof that organic seed/planting material is not available. The operator has to submit proof from at least 2 relevant suppliers that no organic seeds and planting materials are available. Or, the crop is on the "not commercially available" list of the certifier (country specific) with no species of organic quality presently available.

Currently, the use of conventionally treated seedlings for annual crops is not permitted; the harvest will not be certified. Perennials that are grown from seeds (e.g. coffee) are considered as "vegetative propagation material".

To use treated seeds an official confirmation is needed that treatment is made compulsory by state phytosanitary law and that organic seeds were not available.

The use of treated seeds for the organic crop when untreated seeds were clearly available will lead to de-certification of the harvest (not of land).

Soil Association: The Soil Association can make derogations on a case-by-case basis for the use of treated seeds and planting materials whenever organic or conventional untreated seeds or planting material are not available.

Ecocert: Ecocert has asked the relevant authorities how to handle the use of treated seeds outside the EU but has not got any answer yet (summer 2004). Therefore, they still insist on the use of organic or untreated seeds and planting materials. Permission to use conventional untreated seeds and planting materials operators must be sought beforehand.

Some of the certification bodies require that no treated seed be allowed for products sold into the EU even if it were possible to allow treated seeds for phytosanitary reasons. Otherwise, products will be rejected by the import authorities.

2.4 Conclusion

Organic seeds and planting materials
All studied standards/regulations require that organic seeds and planting materials be used whenever available.

Conventional non-treated seeds and planting materials
All standards and legislations allow conventional non-treated seeds and planting materials whenever organic ones are not available. In some of the standards, there are provisions for how this can/should be proven.

Conventional treated seeds and planting materials
IFOAM allows the use of treated seeds and planting materials if there are no other alternatives.
KRAV, Naturland and the Soil Association do not allow treated seeds.
EU and NOP allows chemically treated seeds and planting materials for phytosanitary reasons if such treatment is required by the authorities and whenever organic or conventional untreated seeds are not available.
UgoCert allows the use of chemically treated seeds and planting materials if untreated seeds and planting materials are not available.

GMO seeds and planting materials
All standards prohibit the use of GMO seeds and planting materials. However, it should be noted that none of the standards regulate the level of contamination of seeds by GMOs.

Practical application
In contradiction to theoretical standards, in practice KRAV and Soil Association accept treated seeds if conventional untreated seeds are not available. IMO recognizes the risk that European authorities will not allow products resulting from the use of treated seeds into Europe.
Naturland doesn't allow the use of treated seeds for the export crop either. For home consumption crops, IMO and Naturland accept the use of treated seeds if conventional ones are not available. IMO, Ecocert and Naturland require notification beforehand if treated seeds are to be used.

It is necessary for EPOPA projects to use organic seed and planting material as much as possible. A system should be developed to track the availability of organic seed and/or planting materials. Chapters 4 and 5 report initiatives in this area.

3. National seed and planting material legislation

To find out if it is possible to produce organic seed and/or planting material within the EPOPA projects it is important to know the seed systems within the countries.
There are two major seed systems that are commonly used: formal and informal seed systems.
The formal seed sector is made up of rules and controlled seed operations. The quality of seeds is measured in two ways: Firstly it refers to seeds that are disease free, undamaged or weevil free. Secondly, the quality of seed can be looked at in terms of genetic purity (true to type). The formal seed system includes government institutions, private and commercial seed companies. The development of this sector varies across Africa. Some countries, such as Kenya, Zimbabwe and South Africa have developed effective and diversified seed sectors; while in countries like Tanzania and Zambia the seed sector is still in its infancy. Annex 2 describes the formal seed structures in the different countries.

The informal seed system is composed of unregulated and uncontrolled seed operations. It is based on local structures for information flow and seed movements. It operates at community rather than territorial level. These operations consist of on-farm seed selection and multiplication efforts by farmers, exchange among farmers or through market structures and non-governmental organization project activities. The informal seed system is characterized by the absence of official interventions; it has no links with research and seed quality control organisations, and relies on indigenous seed selection skills and criteria. In Africa, the informal seed systems provide nearly 90% of the total seed requirements.

3.1 Uganda

The Uganda government has a statute on seeds and plants: The agricultural seeds and plant statute, 1994. At the moment this statute is being rewritten. Unfortunately EPOPA has not received a draft of the new version of this statute. This is the formal seed production of certified seed. Besides that, there is an informal seed system in Uganda.

Informal system

Ugandan farmers save seeds to be used for consumption as well as for sowing. This seed is referred to as farmer-saved seed and is estimated to be 90% of the total Ugandan seed requirement for food and oil crops. The quality of farmer saved seeds varies from farmer to farmer. Farmers do not always follow sanctioned techniques, nor have adequate knowledge of seed selection, handling, conservation and storage.
If farmers do not save enough seed for sowing, (in times of food shortage), they purchase seed from markets or traders. Again, the quality of this seed is unknown.

GMO

The Ministry of Agriculture and President Museveni say there is no (GMO) seed in Uganda. Nevertheless, research is done on GMO in bananas at the Kawanda Institute to tackle different banana diseases. The New Vision wrote on October 20th 2004: *"President Yoweri Museveni says he is now sufficiently mobilized to accept the growing of genetically modified crops in Uganda."*
Uganda has ratified the Biosafety protocol and proposes labelling on GMO foods. (http://www.ifg.org/pdf/gmoworld.pdf)

3.2 Tanzania

The Seed production system in Tanzania is governed by the Seed Act No. 29 of 1973, The Seeds (Registration of Standards) Act.

Community Based Seed Production

A key innovation in the Seed Act was announced. The Act allows seed to be produced at village level as Quality Declared Seed (QDS), which has its rules and regulations printed and implemented by TOSCA. This process of village level seed production is known as Community Based Seed Production (CBSP). In this production system, farmers are selected to receive specific training in seed multiplication.
The problems faced by CBSP are:

- The foundation seed needed by seed farms is too expensive.
- It is not practical to implement seed quality standards in the context of community seed production.
- Seed production needs extensive training and different crop management practices.
- It is difficult to build a sustainable seed market as the sales opportunities of conventional CBSD seed on the local market are very limited.

GMO

In November 04, the Tanzanian parliament blocked plans by the government to allow the import of genetically modified (GM) seeds and crops because they said that their presence in the country could damage its environment. The national biotechnology committee is preparing legislation governing the import and distribution of GM seeds. The government had earlier announced that it would admit GM maize, provided it was milled before entering the country. In summer 05, a policy paper on the legislative framework governing GM production was presented. Until that time, the government has set a complete ban on the import of all GMO seeds, claiming they are a potential threat to the environment.

3.3 Zambia

The Zambian government practises the Plant Variety and Seeds Act; Chapter 236 of the laws of Zambia. This Act developed in 1968 was amended by Act No. 21 of 1995.

Informal system

Zambia farmers use their own seed, buy seed from other farmers or seed companies as well as obtain seed for free from NGOs or their government. There is also an informal way of seed production, the so-called Farmer Based Seed Production program. These seeds are not certified but are called Quality Declared Seed (QDS). The seeds meet the simple standards set by the National Seed Testing Association. This system stands between an informal system and the formal system. Often farmers are not even able to buy the QDS or they are available only in limited numbers. So, the option to use QDS seed is not always possible for EPOPA farmers.

GMO

The government of Zambia stands in principle at this stage against GMOs. Seed companies do not supply GMO seed. The Zambian government has drafted biosafety legislation to build technological capacity. This legislation will help in regulating and monitoring GMOs and will also establish the National Biosafety Authority.
The proposed legislation, currently with the Ministry of Justice, is part of the country's five-year National Biosafety and Biotechnology Strategy Plan to initiate biosafety research and to protect biodiversity.
The bill, which is to be submitted to parliament in 2005 for approval, will make Zambia one of the few African countries to have biosafety legislation in place. Zambia has proposed labeling of GMO foods.
(http://www.ifg.org/pdf/gmoworld.pdf).

3.5 Conclusion

In Uganda, Tanzania and Zambia the official registered seed companies sell certified seed. Tanzania has included in its Seed Act the production of propagating material at village level. Uganda and Zambia have an informal seed system where farmers are able to obtain seed from other farmers.

It is clear that the production of formal organic seed and planting materials needs to be initiated and certified within the EPOPA countries. For EPOPA this would mean a whole lot of extra effort. Therefore, this step is not recommended. An easier step would be that EPOPA projects look for seed/planting material in the informal seed systems.

Lack of regulations concerning GMOs in these countries will be another area of concern within EPOPA.

4. Available organic seeds / planting materials

4.1 Organic seeds in Uganda, Tanzania and Zambia

An investigation was conducted in Uganda, Tanzania and Zambia to find out if certified organic seeds and planting materials were commercially available within those countries. This chapter looks at its availability outside the EPOPA programme.

In Uganda there is no certified organic seed available in the formal seed system. Certified organic areas were found outside the EPOPA program in Uganda where companies are involved in organic production and export. This provides organic produce that, according to the informal seed system, could be used within the same areas as seed/planting materials. Some of these companies are listed in Box 1.

Lango Cooperative Union (Lira and Apac) - certified organic cotton, sesame
AMFRI farms (Kampala) - organic fresh and dried fruit-pineapple, applebananas, passion fruits, papaya, mangoes, vanilla and ginger
Kahangi;(Port fortal) - passion fruit, coffee, tea
Spicelands - Vanilla
Masaka Organic Producers (Masaka / Rakai) - fruits
Tropical Ecological Foods Uganda (Mubende) - fruits

Box 1: Companies involved in organic production in Uganda.

In Tanzania there is no specialized centre found for certified organic seed production. Neither the NGOs nor the commercial companies are selling any certified organic seed/planting materials.
Tanzania has areas that are certified as organic where farmers use certified organic crops/tubers as planting materials, see box 2.

ADP Trust Fund (Isangati) - organic turmeric
Arusha - maize, beans, sugar cane planting materials
Southern part of Tanzania - crotalaria, mucuna, soyabeans and Tephrosia Vogelii
Peramiho (Southern Tanzania) - 100 acres of *crotalaria ochroleuca*, 50 acres of Mucuna, 100 acres of soya beans and 20 acres of *Tephrosia Vogelii*
Biolands (Kyela) - organic certified cocoa

Box 2: NGOs and companies involved in organic production in Tanzania.

Some farmers and organisations produce "natural seed" or self-proclaimed organic seeds.

In Zambia there is no seed company selling certified organic seeds or seedlings. The only certified organic seeds / planting materials that are available can be obtained from different organic certified projects, training institutes or farmer (groups).

These are organizations/institutions and companies involved in the production of organic seed, see box 3.

Kasisi Training Institute: Sesame, Velvet beans, Sunnhemp, Pigeon peas, cow peas, Jack beans, Green gram, Sesbania Sesban, Tephrosia Vogelii, Leucaena, Sorghum, Maize (POOL 16 and Local) and Groundnuts (MGV4 and Muvuni). **Gart Training Centre**: Beans, Groundnut, Cowpea, Green gram, Coriander, Ginger and Chillies. Treeseeds of Moringa, Jathropha, Tephrosia, Guava, Sesbania, open pollinated maize (traditional type). **York farm**: Coriander and some vegetable seed **(AOFI, Foxy organics, Gart, Kasisi)**: Tree seeds and green manure seeds are available in different organic certified fields. (Sesbania sesban, Tephrosia, Lupine, Leucaena, Sunnhemp, Cowpea, Comfrey)

Box 3: Organic seed available from different institutes and companies in Zambia.

Besides the institutions mentioned in Box 3, there are other organic certified export companies like Forest Fruits, North Western Bee Company etc. These could be included in the list of organic certified areas.

An investigation among 7 international seed companies based in Eastern and Southern Africa revealed that certified organic seeds are not available within these countries. Certified organic seeds need to be imported whenever required. Annex 3 contains a list of the companies which say that no certified organic seed is available.

The import of organic seed from Europe is quite a complicated and expensive procedure. Seed companies do not feel an urgent need to trade in organic seeds because of the limited demand for organic seeds. Farmers are not willing to pay a higher price for certified organic seed if conventional seeds are locally available for a lower price.
There also remains the question of having varieties that are well adapted to the local conditions. The varieties that currently exist as organic seeds are mainly for temperate climates.

4.2 Conventional non-treated seeds in EPOPA countries

In Uganda, conventional untreated seeds have to be ordered from seed companies in advance. These quantities need to be large and the seeds are only available at a certain time of the year. However, this only covers regular seed like maize, groundnuts, sunflower, cotton etc. Vegetable seeds are not accounted for.

Local seed production is active in Tanzania. This began prior to liberalization, but has taken on a new paradigm since. The Ministry of Agriculture recently started a seed production unit under the National Vegetable Seed Program. The unit is situated at Tengeru Horticultural Research Institute (THRI) and is given the mandate to produce vegetable seeds for the country. It has collaborated

with companies such as Alpha Seeds to help in the distribution of the seeds produced locally.
FAO started a vegetable seed-producing program that has been handed over to Tanzanians and it is functioning successfully. There is also an on-farm seed production program in which extension agents train farmers in the production of QDS, and inspect the seeds for quality. This program produces seeds for about seven vegetable crops.
There was a similar program in Mangola where farmers were trained to produce quality onion seeds for themselves and for companies. Unfortunately none of the seeds have been certified organic. It could be possible that these seeds be made available untreated.

In Zambia it is possible to buy untreated seeds from diverse seed companies. Untreated seeds are not commonly used; therefore they are sold in the capital only. It must be ordered around April / May, after harvest period and before treatment.

4.3 Treated Seed

In Uganda, two major institutions, the Karamoja Seed Scheme of the Church of Uganda (for the semi-arid districts of Moroto and Kotido) and the Uganda Seed project (USP) (for the rest of the country) have been active in the production of certified seeds.

The production of non-certified seeds of specific crops in Uganda is done by various institutions/companies. These seeds/planting materials may be produced (but not necessarily) with chemical input.

Coffee: In Uganda the Coffee Research Centre (COREC) based at Kituza organizes the production of mainly Arabica coffee seedlings. It sells and distributes them to farmers. Most of the coffee, especially robusta coffee, is produced from cuttings (clonal coffee). These cuttings are not necessarily treated with chemicals.

Vegetable seeds: The vegetable seeds used in Uganda are almost all imported. However, some of these seeds are unregulated imported seeds and need to be regarded with caution. Vegetable seed production trials were carried out in Kasese and Kalengyere in the late 1980s and early 1990s but the impact was small. Their quality was inferior and the varieties were often unknown since those seeds changed hands so much.

Cotton seeds: The Cotton Development Organisation, a parastatal body of the MAAIF (Ministry of Agriculture, Animal Industry and Fisheries) is handling cotton seed production. Improved seed production is organised in a seed multiplication system where different varieties are bulked in different regions of the country to ensure genetic purity and high quality seed.

In Tanzania the majority of coffee growers obtain their seedlings from authorized sources of coffee seedlings such as the Lyamungu Research

Institute. Whenever necessary, the Research Institute goes for synthetic inputs. Therefore the history of their seedlings does not conform to the requirements for organic seeds and need to go through a conversion period.
Tanzania currently imports about 30,000 tonnes of different types of seeds a year and produces only 2,000 tonnes itself, according to official figures. (Meyer, Nov 04)

In Uganda, Tanzania and Zambia the formal seed production involves the production of high quality seeds of improved varieties or certified seeds. The certified seeds are then treated with chemicals to protect them from pests, seed- and soil borne diseases.

4.4 GMO seed

The Ministry of Agriculture and President Museveni say there is no (GMO) seed in Uganda. Nevertheless research is done on GMO in bananas at the Kawanda Institute to tackle different banana diseases.

Until the biosafety guidelines and regulations come into force, the Tanzanian government has been taking precautionary measures to ensure proper handling of imported seeds and to protect the country's biodiversity. As a result, farmers have been prohibited from planting maize seeds imported from abroad, and grain passing through the country on its way to neighbouring states has to be transported in leak-proof containers. Despite this, observers claim that GM maize and rice are already being planted illegally in various regions of Tanzania. Besides that, Tanzania has begun field trials on GM cotton.

Although the Zambian government is against GMOs, the country has received food aid for many years. A lot of this food aid came from the US where GMO maize (the staple food in Zambia) is grown. Only 3 years ago, the Zambian government became aware of the import of GMO maize and banned it. But GE maize has been imported before. So, farmers may have unknowingly planted GE maize in their fields. This makes GMO contamination in maize highly possible.

Various varieties of plants have undergone genetic modification. Those to be kept in mind for the EPOPA program are listed in table 1. It is important to be aware of the extent to which any participating country has been involved with GMO crop of any kind. This is to avoid spreading GMOs by contaminated seeds/planting materials. The crops written in italic are crops with a high risk of spreading GMO contamination.

Plants	Legally available in fields or under trials
Avocado	USA
Banana	Mexico, Costa Rica, USA, Uganda
Cabbage	The Netherlands, Finland, USA, Japan, China
Carrots	The Netherlands, USA, Japan
Cassave	USA
Citrus (Orange) (Grapefruit) (Lemon)	Spain, Argentina, USA Mexico
Cocoa	Under research
Coffee	USA, Hawaii, French Guiana, France
Cotton	South Africa, Burkina Faso, France, Spain, Greece, USA, Canada, Australia, Japan, China, India, Indonesia, Thailand, Argentina, Brazil, Mexico, Belize, Bolivia, Costa Rica, Tanzania, Zambia
Eucalyptus	South Africa, England, Spain, USA, Brazil
Maize	South Africa, Egypt, Philippines, Bulgaria, Honduras, Argentina, Brazil, Costa Rica, Puerto Rico, Chile, Canada, USA, Germany, Switzerland, Japan, Korea, Indonesia, Australia, New Zeeland, Soviet Union, Ukraine,
Melon (sugar)	Spain, Italy, France, Egypt, Mexico, China, Chile, Japan
Melon (water)	USA, Mexico
Onions	USA, New Zeeland
Papaya	USA, Hawaii, Mexico, Jamaica, Japan, China, Australia, Thailand,
Groundnuts	India, USA
Peppermint	USA
Pineapple	Australia, USA, Mexico
Pumpkin	Egypt, Mexico, Guatemala, USA, Canada, Spain, France
Rice	Spain, Italy, France, USA, Argentina, India, Brazil, China, Mexico, Philippines, Japan
Soja	South Africa, France, Spain, Italy, Germany, Swiss, Czech Republic, Romania, Soviet Union, USA, Canada, Argentina, Brazil, Mexico, Costa Rica, Belize, Dominican Republic, Puerto Rico, Uruguay, Paraguay, Japan, China, Korea, Thailand, Indonesia, New Zeeland, Australia,
Sorghum	USA
Squash	Egypt, France, Spain, USA, Canada, Mexico, Guatemala
Sweet Potatoes	Kenya, USA, Brazil
Sugarcane	South Africa, Egypt, USA, Cuba, Australia, Hungary, India, Brazil
Tomatoes	Egypt, Italy, Spain, France, The Netherlands, Portugal, Great Britain, Greece, USA, Canada, Japan, Australia, Mexico, Thailand, India, China, Chile, Guatemala, New Zeeland
Wheat	South Africa, Egypt, Great Britain, Belgium, Spain, Germany, Swiss Italy, Czech, USA, Canada, Australia, Japan, New Zeeland, Argentina, Mexico,

Table 1: GMO crops with requests to grow or already cultivated.

The list in table 1 is not complete. For more details see: www.transgen.de "datenbank".

GMO contamination

GM crops are so far only commercially available in South Africa, but there have been field trials in South Africa, Kenya, Egypt, Burkina Faso, Senegal and Zimbabwe where there are no public announcement or regulatory oversight. At least 12 African countries are carrying out research on GM crops, including Egypt, Uganda, Tanzania, Morocco, Nigeria, Tunisia and Cameroon. A long list of GE crops is in the pipeline for introduction in various African countries. There is also concern that GM crops can enter any country through food imports and seed smuggling, even for countries that have taken measures to prevent imports of GM food, such as Zambia, Angola, Sudan, and Benin.

However, it is unknown if GMO contamination has occurred. Due to the absence of specific laboratory methodologies it is currently not possible to investigate the presence of GMO in a crop within the EPOPA countries. Such investigations need to be done in European laboratories.

As it has been noted earlier, the organic standards do not provide very clear guidelines about GMO contamination, but it is imperative that the organic producers do their best to avoid GMO contamination

4.5 Conclusion

In Uganda, Tanzania and Zambia as well as Kenya and South Africa there is no certified organic seed available. However, it is possible to acquire untreated conventional seeds, but only in large quantities and only at certain times of the year.

Almost 90% of the seed materials, used for home consumption crops, are obtained through informal channels, that is, saved from the previous year's harvest. The use of chemicals in Uganda, Tanzania and Zambia by small-scale farmers is low which means that almost all of the seed used in the farms is organic by default. The exceptions to this, in some cases, are the vegetable seeds. If farmers can afford them, these are bought at seed companies. This means that the seeds are treated, as untreated vegetable seeds are not available.

Certified treated seeds are available at the registered seed companies or some specific research stations.

There are organic certified companies active within the three EPOPA countries. These companies produce different kinds of crops. A database could be established where all the organic companies within the countries are registered with vital information about their crops and the acreage under cultivation. This makes for a more efficient sharing of seed and planting material.

As the EPOPA countries do not have their regulations in place yet, GMO contamination is likely to be found to some extent in the informal seed systems. GMO varieties are normally patented and sold at high prices, which means that there is little likelihood of farmers using GMO seeds from the formal seed system unknowingly. However if GMO crops had been distributed as food aid, e.g. corn, there is always a risk that farmers could have sown some of it.

5. EPOPA projects

Although no formal certified organic seed is available commercially in these countries, this does not mean that there are no certified or non-certified organic seeds available within the informal system.
As we have mentioned before, a high percentage of the seeds/planting materials used is taken from the informal seed system. EPOPA has a lot of certified organically grown seeds and planting materials available within these countries and they should be used as propagation raw materials within the EPOPA program.

5.1 Uganda

A lot of the organic projects within EPOPA are producing perennial crops like coffee, vanilla, cocoa, pineapple, papaya, passion fruit, and banana. For these crops, the demand for new stock is not very high. If new stock is required, the farmers normally use materials from their own organically certified farm. This might be local seeds or cuttings. In these organic nurseries no chemical input is allowed.

In the past, planting material has always been sourced locally, which means that the farms are not certified organic farms but organic by default. A special variety of papaya seed (Red Lady) was ordered from abroad. This seed was grown organically (although not certified) and GMO free.

EPOPA encourages the use of organic planting materials / seeds, within the program. As the number of projects and crops increases, the availability of certified organic seeds / planting materials improves. For instance, farmers planting vanilla bought their planting material from farmers in Bundibudgyo, an already certified organic area. If planting materials within the program is not available, efforts are made to find another certified organic source with other companies. Table 2 explains the location, the organic certified crops and the estimated acreage under cultivation within the EPOPA program

For projects dealing with annual crops (sesame and Outspan, for example) farmers save seeds from their certified organic crop and store them (informal seed system). These seeds are then used as planting material in the next planting season. The exporter buys organic sesame from the certified organic farmers and sells it to farmers who do not have seeds available.

Supplementary food crops are grown from the home farm resources or seed / planting materials collected from the neighbouring fields (organic or organic by default).

Vegetable seeds are an exception. They are bought in tins from seed companies and are treated. Non-treated alternatives of vegetable seeds are not available.

Exporter	Area	Crop	Organic area
Kawacom	Bushenyi	Robusta coffee	2026 ha
Kawacom	Sipi	Arabica coffee	1500 ha*
Kawacom	Paidha	Arabica coffee	2500 ha*
Outspan	Kaberamaido / Apach	Sesame/ chili	5400ha*
Esco	Bundibudgyo	Cocoa, Vanilla	2000 ha
Lango / Outspan	Lira	Cotton	5000 ha*
Reco	Kasese	Pineapple, Papaya	400 ha*
Bio Uganda	Mukono / Masaka	Passionfruit, Pineapple, Papaya Apple bananas	50 ha total for all the different crops.
Ibero	Luwero	Coffee, Vanilla	350 ha*
Gumutindo	Sipi	Arabica coffee	450 ha
Barkcloth	Masaka	Barkcloth	Unkown
Naseco	Kibale	citronella, lemongrass, palmarosa, rose geranium, vetiver, tea tree, eucalyptus citriodora.	150 ha
KMI	Lira	Shea nut	Wild harvesting certification
Tamteco	Kabarole	Lemon grass, Rosemary	1600 ha
	Mityana		400 ha
Biofresh	Luwero / Kayunga / Rakai / Masaka	Pineapple, Avocadoes	40 ha* total land for all the different crops
	Mukono / Kamuli	Passion fruit	
	Mbarara	Apple banana	
	Mpigi	Ginger	
Lakeside Vanilla / UMS	Lake Victoria	Vanilla, Pineapples Apple banana	30 ha* total for the different crops

Table 2: Organic crops and cultivated areas within the EPOPA program of Uganda

* Estimation of total organic area

5.2 Tanzania

In Tanzania some project farmers use planting materials from plants in conversion. In the Dabaga pineapple project where farmers want to expand, they use the planting material from farmers that have their fields in conversion or are organic certified.

Tree crops like cashew need little replanting. If trees need to be replaced, project farmers make a nursery within the project area and use their own certified organic cashew seeds in their nurseries.

The coffee project within the Kilimanjaro area (KNCU) utilises a different seed system. Very few farmers from the KNCU obtain coffee seedlings from their own established nurseries. The majority of the coffee growers obtain their seedlings from authorized production sources of coffee seedlings such as the Lyamungu Research Institute (LRI). These seedlings are transplanted at a very young stage. However, whenever necessary the Lyamungu Research Institute uses synthetic inputs and hence the histories of their seedlings do not conform to the requirements for organic planting materials. Currently, KNCU multiplies seedlings obtained from LRI at a specific centre until they are suitable for transplanting to the fields. It must be noted that this centre was previously used for maize production associated with high synthetic inputs. Table 3 shows the crops, areas and (estimated) acreages certified organic within the EPOPA program.

Exporter	**Area**	**Crop**	**Organic area**
Dabaga	Iringa	Pineapple	450 ha
EZO	Zanzibar	Cloves	260 ha*
Hope	Mbeya	Arabica coffee	1600 ha
KCU	Bukoba	Robusta coffee	1851 ha
KNCU	Kilimanjaro	Arabica coffee	808 ha
PCI	Kerekese	Cashew	420 ha
Rufiji Honey	Rufiji	Honey	ha unknown Low risk area
Golden African Ginger	Tanga	Ginger	20 ha
Tanpro	Sumbawanga, Kondoa, Dodoma, Tabora, Mpanda	Groundnuts	unknown
Matunda Mema	Kayanga	Pineapple	305 ha

Table 3: Organic crops and areas within EPOPA program Tanzania
* Estimation of total organic area

Farmers keeping their own gardens do experience the problem of purchasing seeds that are treated. Untreated vegetable seeds are not available in Tanzania. Many farmers growing their crops for home consumption use seeds kept from previous harvests. These seeds are not treated with any chemicals and so are organically grown. Farmers (very few of them) who can afford to buy seeds, buy them from the seed company. These seeds are chemically treated.

5.3 Zambia

EPOPA projects in Zambia take their supply of organic planting material (lemon grass) from certified organic project areas.
To aid future expansion, the farmers have already planted organic planting material of the crops in their own organic certified gardens. These organic planting materials will then be used as certified organic seed / planting material in the future.

Small-scale farmers propagate their planting material from their own 'organic by default' fields. These are mainly food crops meant for home consumption

like cassava, maize, sweet potatoes, bananas, mangos, beans, pumpkin, sunflower and sugarcane. These farmers do not use any chemicals on the aforementioned planting materials.

Exporter	Area	Crop	Organic area
AOFI	Chikupi	Lemongrass, Rosemary, Geranium, Citronella and Spelanthus	10 ha*
	Siavonga, Magoye, Chongwe Mazabuka	Groundnuts (MGV4), Sunflower (Mylica), Lemongrass, Vetiver	125 ha*

Table 4: Organic crops and areas within EPOPA program Zambia
* Estimation of total organic area

In the three EPOPA countries it is expected that the crops grown within the project area for export are non-GMO contaminated. No research has yet been done on crops meant for home consumption to ascertain if GMO contamination already exists.

5.4 Conclusion

In Uganda, Tanzania and Zambia, the projects use certified organic seed/planting materials from their own projects wherever and whenever possible. In earlier times, it happened that the planting materials / seeds obtained were not necessarily organic but more usually organic by default. This was the case in the Tanzanian coffee project where planting material was obtained from a research station which practises conventional methods of plant propagation. But now, the coffee propagation is done by the project itself. This same scenario occurs whenever new crops or new regions of production are cultivated.

EPOPA is now more aware of the large amounts of certified organically grown crops available within the project areas. This means that if organic planting materials are not available within a project, they can look for other certified organic areas where the specific plants are grown to obtain seed / planting material. However, the feasibility of using these organic planting materials should always be kept in mind. Theoretically, it might be possible to use planting materials from other parts of the country. Practically, it might not be feasible to transfer cuttings over long distances, keeping in mind the rough roads and high temperatures. This is especially true where fragile planting material, like vanilla, is concerned as the cuttings need to be transplanted on the same day or latest by the following day.

Basically, all vegetable seeds are treated. None of the EPOPA projects has vegetable production as its focus, but in many cases farmers do grow vegetables for themselves or for the local market. It will be difficult, if not impossible for EPOPA, to control this dispersed and disorganised production. Furthermore, the additional income of the farmers and the improvement in

their diet is of some importance. EPOPA is promoting the increase of kitchen gardens, also as part of its HIV/Aids mitigating strategy.

6. Conclusion and recommendations

The standards/regulations of the different certification bodies require the use of certified organic seed and planting material whenever they are available. The survey made clear that these are not available in the countries within the formal seed structure. It is not feasible for farmers to use certified organic seed / planting materials in their entire farm, and this includes vegetable gardens, food crops and cash crops. It is therefore very hard for the EPOPA projects to meet the demand for the use of certified organic seed / planting materials. Nevertheless, there are a number of measures that should be taken.

In the past, it did not always happen that EPOPA projects obtained their seed/planting materials from organic areas. When this was the case the seed / planting materials were obtained mostly from organic by default areas. Currently, the projects should use certified organic seed/planting materials as much as it is possible. These could be obtained through the informal seed system from EPOPA project areas, or from other areas. Feasibility should always be kept in mind. Travelling long distances with fragile planting materials over rough roads in hot temperatures will damage a lot of the planting materials. This will result in lowering the supply. Another important factor is that the planting materials should be healthy and of the right variety.

A system could be developed to tabulate the availability of certified organic seed and/or planting materials for each country. The tables given in chapter 5 about certified organic areas and crops need to be updated regularly. Crops used for home consumption and crops in conversion need to be included in the database also. This database should not be kept for EPOPA projects only. All the companies involved in organic production within the country could be asked to register themselves. Through this registration, all the parties involved can have easy access to vital information about other organic certified areas with the crops under cultivation within their country. National organic movements (i.e. NOGAMU, OPPAZ and TOAM) in the countries can maintain the database, after the initial efforts by EPOPA.

Despite these efforts, only very few crops will be listed. This makes it not feasible to make available some crops/varieties which are certified as organic.

Nevertheless, this is work in progress and it is recommended that the certification bodies and import authorities accept the use of conventional seeds until there is an operating market for organic seeds. This means that African farmers get the same conditions as European or American farmers, who were used conventional seeds freely during the early decades of the development of the organic sector.

Untreated conventional as well as organic by default seed / planting materials are found within the countries in the informal seed structure. Most of these seeds /planting materials are used for food crops and cash crops. However, by the very nature of the informal sector, it is difficult to document things according to the demands of the certification bodies. Certification bodies should

understand this problem and should accept, instead, general research as the basis for dealing with the projects instead of data collection on the individual farms. This means that the certified operator will then provide a general survey of the conditions in the area specified. There should be no need to document the usage of seeds of the individual farmers.

Organic vegetable seeds are not available, and almost all vegetable seeds are treated with substances prohibited in organic farming.
In the short term, there is little EPOPA can do about it. For a few crops, wherever this is feasible, farmers can be taught to produce their own seeds. But this is not likely to get widespread use because it doesn't work for most modern varieties, as they are hybrids. Taking into account that the small vegetable production in the projects is meant only for the local market or home consumption and that vegetable production holds many advantages for the individual households, it is recommended that certification bodies and import authorities allow the use that treated vegetable seeds on these organic farms as the vegetables are not for export.

In the future, producers wishing to venture into organic vegetable planting on a commercial scale should try to source un-treated seeds. Organic seeds should be introduced in due time, after testing for the appropriate varieties. If any commercial party could be identified for the production of certified organic seeds, that would be a good effort to support. The current practice is that individuals on small scale carry organic vegetable seed into the countries, although this is not legal. These seeds are then used in organic vegetable gardens on small scale.

For the benefit of the farmers who save their seeds for the next season, seed selection (cash crop and home consumption), and traditional storage improvement techniques should be included in EPOPA training sessions.

EPOPA could consider starting a project to promote on-farm seed production of required seed with some progressive farmers. These on-farm seed production fields should be part of the organic certification. This would apply mainly for seeds that are not available untreated and those that can be easily contaminated by GMO like vegetable seeds, cotton, maize, papaya, banana and eucalyptus.

Not cultivating GMO crops is not a major problem. EPOPA and the national movements should monitor the introduction of GMO crops (if any) and produce a list of the GMO varieties. There will always be a risk that some farmers would sow GMO seeds from something bought as food, fodder or distributed as food aid. Certification bodies should acknowledge this low risk of GMO contamination.

GMO contamination within the countries is not likely to be a widespread problem in the short-term perspective. However, without the proper regulations in place, with research activities going on in some countries and with the import of food, the danger of contamination is increasing. EPOPA personnel should take great pains to ensure that the seeds or planting materials moved are free from GMO contamination and also of non- GMO varieties.

It might be necessary to examine samples for GMO contamination every year for high risk species. This is especially important for organic cotton in the project areas or cotton and maize in the organic bee project areas. Papaya should be tested once in three years. For the food consumption crops, it might be prudent to have maize and groundnuts examined. Examinations can be done either in South Africa or in Europe and costs vary from 200 to 250 Euros depending on the crop to be examined. Organizations responsible for this might be the national organic organizations in all three countries (NOGAMU Uganda, Kihata Tanzania, OPPAZ Zambia) in collaboration with EPOPA. This could be developed together with the organic database system as a small autonomous project for each national organic movement.

Annex 1. Standards/ regulations, text on seeds and planting material

Here are the sections in the standards and regulations, which touch on seeds and plant materials. The EU-regulation has been shortened considerably.

IFOAM Basic Standards (2002)

Standards shall require that:

2.3.3. The use of genetically engineered seeds, pollen, transgene plants or plant material is not allowed.

4.1 Choice of Crops and Varieties

General Principle

Species and varieties cultivated in organic agriculture systems are selected for adaptability to the local soil and climatic conditions and tolerance to pests and diseases.

All seeds and plant material are certified organic.

Recommendations

A wide range of crops and varieties should be grown to enhance the sustainability, self–reliance and biodiversity value of organic farms.

Plant varieties should be selected to maintain genetic diversity.

Organically grown varieties, and varieties known to be suited to organic cultivation should be preferred.

Operators should use organically bred varieties. See Chapter 9 and Appendix 6 for the draft organic plant breeding and multiplication standards.

Standards shall require that:

4.1.1. Organic seed and plant materials of appropriate varieties and quality shall be used. When they are not commercially available, standard-setting organizations shall set time limits for the use of non-organic seed and plant material.

4.1.2. When organic seed and plant materials are not available, conventional materials may be used provided that they have not been treated with pesticides not otherwise permitted by these standards.

Where untreated conventional seeds and plant materials are not available, chemically treated seed and plant material may be used. The certification body shall establish time limits and conditions for exemptions that permit use of any chemically treated seeds and plant materials

KRAV standards (2004)

4.6.1 KRAV certified seeds, plants and propagation materials for annual and biennial plants shall be used whenever possible. Seeds shall be KRAV certified by 2010 at the latest. Seeds from KRAV certified production during conversion period may be included.
According to council regulation (EEC)NO 2092/91 on organic production of agricultural products and indications referring to agricultural products and foodstuffs, organically grown seed and organically grown plants are compulsory until 31 December 2003. The Swedish National Board of Agriculture may permit the use of conventional seed and plant material where there is no organic propagation material of the appropriate sort available.

4.6.2. Plants for annuals shall be KRAV certified. Perennials and other propagation materials shall be KRAV certified if the harvest is to bear the KRAV label sooner than 12 months after planting. For harvests after 2005, the standard will be 18 months prior to planting.

4.6.3 Seed may not be treated (coated) with chemical pesticides or herbicides.

4.6.4 Seed, plants or other propagation material may not originate from genetically modified organisms.

4.6.5 Seedling and potting soil may only contain soil conditioners and fertilizers approved in accordance with these standards. Vermiculite, sand, clay, light clinker and perlite are accepted as soil conditioners for seedling and potting soil.

Naturland standards (2002)

3. Seed and plant materials (incl. vegetative propagation material)
The seed and plant material applied must – as far as available – be certified by Naturland or meet certification standards approved as equivalent by Naturland
4. If this is not available the farm manager has to give notice and proof of its non-availability.
The use or dressing of seeds or of plant material with synthetic chemical pesticides is not permitted.
The seed and plant materials used may only be treated with the substances listed in annex D. I. 2. 2.2 and 2.3. When using dressed seeds (pilled or in sheet form), care should be taken that the materials used in this process are considered harmless under these standards.
The strains cultivated (their combination with undergrowth, growing methods) should be suitable to local conditions. The criteria are primary low susceptibility or greatest tolerance of and resistance to diseases. In the selection of strains and varieties, care must be taken that genetic variety can be guaranteed.
4 The aim is to obtain seed and plant materials from organic origins only by 31/12/2003.

3. Nursing of seedlings
All seedlings needed on the farm have to be grown in the farm's own nursery or bought from farms that are certified by Naturland or meet certification standards approved as equivalent by Naturland.

Soil Association standards (2003)

Recommended

3.01.07 The use of organic seeds and plant materials.

3.01.08 Bare root transplants raised on the licensee's own organic unit.

Required

3.01.09 In order to produce organic seeds, the mother plant must have been produced in accordance with these standards for at least one generation or, in the case of perennial plants, two growing seasons.

3.01.10 In order to produce organic vegetative propagative material the parent plant(s) must have been produced in accordance with these standards for at least one generation or, in the case of perennial plants, two growing seasons.

3.01.11 Transplants (blocks, modules, sets, root stock and bud materials) must be propagated on a registered organic unit in media derived from permitted materials (manures and supplementary nutrients specified in sections 2.05–2.07).

Permitted

3.01.13 Clay (bentonite and zeolites), vermiculite and perlite which have not undergone chemical treatments with prohibited materials may be used as ingredients in propagating media.

3.01.14* Pot plants and potted herbs (including salad cress but excluding grow bag production) may be produced and sold as organic provided:

a. The substrate is composed of a minimum 75 per cent (by fresh weight of the end product) of materials from organic farming origin.
b. The balance of the substrate, including additional mineral requirements, complies with the provisions of sections 2.05 and 2.06.
c. Until the point of sale more than 50 per cent of the nutrient needs are supplied by the substrate, rather than any subsequent feeding.
d. Measures are taken to ensure that the substrate is biologically active, such as the inclusion of composted material.
e. The following are not used as constituents of the substrate: soil of organic farming origin, peat, slaughterhouse waste.
f. Seeds of potted herbs are organically produced (derogations may be given until 31 December 2003 where organic seed is unavailable.
g. All other relevant aspects of these standards are complied with.

Restricted

3.01.15 The use of non-organic seeds, vegetative propagating material such as potato tubers, onion sets, strawberry runners and fruit tree root stock and bud material.

Note. Until 31 December 2003, permission must be sought to use non-organic seeds and vegetative propagating material and evidence must be provided to demonstrate that organic material of the appropriate (or equivalent) variety is not available on the market. After 31 December 2003, the authorities will draw up a list of those species and varieties that are still not available as organic, for which non-organic alternatives may therefore be used.
Where permission has been granted to use non-organic propagating material, these must, wherever possible, have been treated only with products included in chapter 2. Any permission given is valid for that year only. The onus is on the licensee purchasing the non-organic seed to obtain the derogation from the certification body.

Prohibited

3.01.17 Varieties of seed that have been produced using genetic engineering.
3.01.18 Growth regulators.
3.01.19 Peat as a soil conditioner.
3.01.20 The use of transplants from non-registered holdings.

EEC no 2092/91 + EC no 1452/2003

EEC no 2092/91

Rules of production

Article 6 (Shortened to only cover seed and planting material)

1. (c) only seed or vegetative propagating material produced by the organic production method referred to in paragraph 2 is used;

(d) genetically modified organisms and/or any product derived from such organisms must not be used, with the exception of veterinary medicinal products.

2. The organic production method implies that for seeds and vegetative reproductive material, the mother plant in the case of seeds and the parent plant(s) in the case of vegetative propagating material have been produced:

(a) without the use of genetically modified organisms and/or any products derived from such organisms, and

(b) in accordance with subparagraphs (a) and (b) of paragraph 1 for at least one generation or, in the case of perennial crops, two growing seasons.

3.(a) By way of derogation from paragraph 1 (c),seeds and vegetative propagating material not obtained by the organic production method may, during a transitional period expiring on 31 December 2003 and with the approval of the competent authority of the Member State, be used in so far as users of such propagating material can show to the satisfaction of the inspection body or authority of the Member State that they were unable to obtain on the market propagating material for an appropriate variety of the species in question and satisfying the requirements of paragraph 2. In that case, propagating material which is not treated with products not listed in Annex Bisection B must be used, if available on the Community market.

Member States shall inform the other Member States and the Commission of any authorization granted under this paragraph.

Article 6a

1. For the purposes of this Article, 'seedlings 'shall mean whole seedlings intended for planting for plant production.
2. The organic production method implies that when producers use seedlings, they have been produced in accordance with Article 6.
3. By way of derogation from paragraph 2, seedlings not obtained by organic production methods may be used during a transitional period expiring on 31 December 1997 in so far as the following conditions are met:
   (a) the competent authority of the Member State has authorized the use after the user or users of such material have demonstrated to the satisfaction of the inspection body or authority of the Member State that they were not able to obtain an appropriate variety of the species in question on the Community market;
   (b) the seedlings have not been treated, since sowing, with any products other than those listed in Annex Bi sections A and B;
   (c) the seedlings come from a producer who has accepted an inspection system equivalent to the arrangements laid down in Article 9 and has agreed to apply the restriction in subparagraph (b);this provision shall enter into force on 1 January 1996;
   (d) after planting, the seedlings must have been cultivated in accordance with the provisions of Article 6 (1) (a) and (b) for a period of at least six weeks before harvesting;
   (e) the labelling of any product containing ingredients derived from such seedlings may not include the indication referred to in Article 10;
   (f) without prejudice to any restriction resulting from the procedure referred to in paragraph 4, any authorization granted under this paragraph shall be withdrawn as soon as the shortage comes to an end, and shall expire on 31 December 1997 at the latest.
4. (a) Where an authorization as referred to in paragraph 3 has been granted, the Member State shall immediately notify to the other Member State and to the Commission the following information:
   the date of the authorization,
   the name of the variety and species concerned,
   the quantities that are required and the justification for those quantities,
   the expected period of the storage,
   any other information requested by the Commission or the Member States.

   (b) If the information submitted by any Member State of the Commission and to the Member State which granted the authorization shows that an appropriate variety is available during the period of the storage, the Member State shall consider withdrawing the authorization or reducing its period of validity, and shall inform the Commission and the other Member States of the measures it has taken, within 10 days of the date of receipt of the information.

   (c) At the request of a Member State or at the Commission's initiative, the matter shall be submitted for examination to the Committee referred to in Article 14. It may be decided, in accordance with the procedure laid down

in Article 14, that the authorization shall be withdrawn or its period of validity amended.

EC no 1452/2003

Commission Regulation (EC) No 1452/2003 of 14 August 2003 maintaining the derogation provided for in Article 6(3)(a) of Council Regulation (EEC) No 2092/91 with regard to certain species of seed and vegetative propagating material and laying down procedural rules and criteria relating to that derogation

CHAPTER I GENERAL RULES

Article 1

Maintenance of the derogation

1. The derogation provided for in Article 6(3)(a) of Regulation (EEC) No 2092/91, according to which Member States may authorise the use of seed or vegetative propagating material not obtained by the organic production method, subject to the conditions set out in that Article, is maintained after 31 December 2003 as regards species not listed in the Annex to this Regulation.
   For the application of the derogation concerning seed or seed potatoes referred to in the first subparagraph, procedural rules and criteria are set out in Articles 3 to 14.

2. Species for which it is established, in accordance with the procedure laid down in Article 14 of Regulation (EEC) No 2092/91, that organically produced seed or seed potatoes are available in sufficient quantities and for a significant number of varieties in all parts of the Community are set out in the Annex to this Regulation.
   The species listed in the Annex are not entitled to authorisations pursuant to the derogation referred to in paragraph 1 unless it is justified by one of the purposes referred to in Article 5(1)(d).

Article 2

Definition

For the purpose of this Regulation:

(a) the definitions in Regulation (EEC) No 2092/91 shall apply;

(b) "supplier" means an operator who markets seed or seed potatoes to other operators.

CHAPTER II APPLICATION OF THE DEROGATION

Article 3

Use of seed or seed potatoes not obtained by the organic production method

Member States may, pursuant to the procedure set out in Article 5, authorise the use of seed or seed potatoes not obtained by the organic production method, provided that the seed or seed potatoes are:

(a) not treated with plant protection products, other than those accepted for treatment of seed in part B of Annex II, to Regulation (EEC) No 2092/91, unless chemical treatment is prescribed in accordance with Council Directive 2000/29/EC(3) for phytosanitary purposes by the competent authority of the Member State for all varieties of a given species in the area where the seed or seed potatoes are to be used, and

(b) produced without the use of genetically modified organisms and/or any products derived from such organisms.

Article 4
Authorities or bodies responsible for granting authorisations
Inspection authorities or bodies referred to in Article 9 of Regulation (EEC) No 2092/91 are responsible for granting the authorisation referred to in Article 5 of the present Regulation, unless the Member State designates other authorities or bodies supervised by the Member State concerned.

Article 5
Conditions for granting authorisations
1. Authorisation to use seed or seed potatoes not obtained by the organic production method may only be granted in the following cases:
   (a) if no variety of the species which the user wants to obtain is registered in the database provided for in Article 6;
   (b) if no supplier is able to deliver the seed or seed potatoes before sowing or planting in situations where the user has ordered the seed or seed potatoes in reasonable time;
   (c) if the variety which the user wants to obtain is not registered in the database, and the user is able to demonstrate that none of the registered alternatives of the same species are appropriate and that the authorisation therefore is significant for his production;
   (d) if it is justified for use in research, test in small-scale field trials or for variety conservation purposes agreed by the competent authority of the Member State.
2. The authorisation shall be granted before the sowing of the crop.
3. The authorisation shall be granted only to individual users for one season at a time and the authority or body responsible for the authorisations shall register the quantities of seed or seed potatoes authorised.
4. By way of derogation from paragraph 3, the competent authority of the Member State may grant to all users a general authorisation for a given
   - species when and in so far as the condition laid down in paragraph 1(a) is fulfilled, or
   - variety when and in so far as the conditions laid down in paragraph 1(c) are fulfilled.
   Such authorisations shall be clearly indicated in the database.
5. Authorisation may only be granted during periods for which the database is updated in accordance with Article 7(3).

CHAPTER III RULES ON REGISTRATION OF SEED OR SEED POTATOES OBTAINED BY THE ORGANIC PRODUCTION METHOD

Article 6
Database
1. Each Member State shall ensure that a computerised database is established for the listing of the varieties for which seed or seed potatoes obtained by the organic production method prescribed in Article 6(2) of Regulation (EEC) No 2092/91 are available on its territory.
2. The database shall be managed either by the competent authority of the Member State or by an authority or body designated for this purpose by the

Member State, hereinafter referred to as "manager of the database". Member States may also designate an authority or a private body in another country.

3. Each Member State shall inform the Commission and the other Member States of the authority or private body designated to manage the database.

Article 7
Registration

1. Varieties for which seed or seed potatoes produced by the organic production method are available shall be registered in the database at the request of the supplier.
2. Any variety which has not been registered in the database shall be considered as unavailable with regard to the application of Article 5 of the present Regulation.
3. Each Member State shall decide in which period of the year the database has to be regularly updated for each species or group of species cultivated on its territory. The database shall hold information on this.

Article 8
Conditions for registration

1. For registration, the supplier must be able to:
   (a) demonstrate that he or the last operator, in cases where the supplier is only dealing with prepackaged seed or seed potatoes, has been subject to the inspection system referred to in Article 9 of Regulation (EEC) No 2092/91;
   (b) demonstrate that the seed or seed potatoes to be placed on the market comply with the general requirements applicable to seed and vegetative propagating material;
   (c) make available all the information required under article 9 of this Regulation, and undertake to update this information at the request of the manager of the database or whenever such updating is necessary to ensure that the information remains reliable.
2. The manager of the database may, with the approval by the competent authority of the Member State, refuse a supplier's application for registration or delete an already accepted registration if the supplier does not comply with the requirements set out in paragraph 1.

Article 9
Registered information

1. For each registered variety and for each supplier, the database shall contain at least the following information:
   (a) the scientific name of the species and the variety denomination;
   (b) the name and contact details of the supplier or his representative;
   (c) the area where the supplier can deliver the seed or seed potatoes to the user in the usual time needed for the delivery;
   (d) the country or region in which the variety is tested and approved for the purpose of the common catalogue of varieties of agricultural plant species and vegetable species;
   (e) the date from which the seed or seed potatoes will be available;

(f) the name and/or code number of the inspection authority or body in charge of the inspection of the operator as referred to in Article 9 of Regulation (EEC) No 2092/91.

2. The supplier shall immediately inform the manager of the database if any of the registered varieties are no longer available. The amendments shall be recorded in the database.
3. Besides the information specified in paragraph 1, the database shall contain a list of the species listed in the Annex.

Article 10
Access to information

1. The information in the database shall be available through the Internet, free of cost, to the users of seed or seed potatoes and to the public. Member States may decide that users who are registered according to Article 8(1)(a) of Regulation (EEC) No 2092/91 shall obtain, at request, an extract of data concerning one or several groups of species from the database manager.
2. The Member States shall ensure that all users who are registered according to Article 8(1)(a) of Regulation (EEC) No 2092/91 are informed, at least once a year, about the system and how to obtain the information in the database.

Article 11
Registration fee

Each registration may be subject to the levying of a fee, which shall represent the cost of introducing and maintaining the information in the database. The competent authority of the Member State shall approve the level of the fee practised by the manager of the database.

CHAPTER IV REPORT AND FINAL PROVISIONS
Article 12
Annual report

1. The authorities or bodies designated to grant authorisations in accordance with Article 4 shall register all authorisations, and shall make this information available in a report to the competent authority of the Member State and to the manager of the database.
   The report shall contain, for each species concerned by an authorisation according to Article 5(1), the following information:
   (a) the scientific name of the species and the variety denomination;
   (b) the justification for the authorisation indicated by a reference to Article 5(1)(a), (b), (c) or (d);
   (c) the total number of authorisations;
   (d) the total quantity of seed or seed potatoes involved:
   (e) the chemical treatment for phytosanitary purposes, as referred to in Article 3(a).
2. For authorisations according to Article 5(4) the report shall contain the information referred to in paragraph 1(a) and the period for which the authorisations were in force.

Article 13
Summary report
The competent authority of the Member State shall, before 31 March each year, collect the reports and send a summary report covering all authorisations of the Member State from the previous calendar year to the Commission and to the other Member States. The report shall cover the information specified in Article 12. The information shall be published in the database. The competent authority may delegate the task of collecting the reports to the manager of the database.

Article 14
Information upon request
Upon request from a Member State or the Commission, detailed information on authorisations granted in individual cases shall be made available to other Member States or to the Commission.

Article 15
Revision
Before 31 July 2006 the Commission will examine the availability and use of seed or vegetative propagating material obtained by the organic production method and the effective implementation of the present regulation and will, if necessary, make the appropriate amendments.

Article 16
Entry into force and application.
This Regulation shall enter into force on the 20th day following that of its publication in the Official Journal of the European Union.
It shall apply from 1 January 2004.

This Regulation shall be binding in its entirety and directly applicable in all Member States.
Done at Brussels, 14 August 2003.

ANNEX
The Commission is currently investigating this issue with the Member States in order to establish a list of species to be included in the Annex, in accordance with the opinion of the Committee set up in accordance with Article 14 of Regulation (EEC) No 2092/91.

NOP (2000)

§ 205.204 Seeds and planting stock practice standard.
(a) The producer must use organically grown seeds, annual seedlings, and planting stock: Except, That,
  (1) Non organically produced, untreated seeds and planting stock may be used to produce an organic crop when an equivalent organically produced variety is not commercially available, Except, That, organically produced seed must be used for the production of edible sprouts;
  (2) Non organically produced seeds and planting stock that have been treated with a substance included on the National List of synthetic substances

allowed for use in organic crop production may be used to produce an organic crop when an equivalent organically produced or untreated variety is not commercially available;

(3) Non organically produced annual seedlings may be used to produce an organic crop when a temporary variance has been granted in accordance with § 205.290(a)(2);

(4) Non organically produced planting stock to be used to produce a perennial crop may be sold, labelled, or represented as organically produced only after the planting stock has been maintained under a system of organic management for a period of no less than 1 year; and

(5) Seeds, annual seedlings, and planting stock treated with prohibited substances may be used to produce an organic crop when the application of the materials is a requirement of Federal or State phytosanitary regulations.

§ 205.290 Temporary variances.

(a) Temporary variances from the requirements in §§ 205.203 through 205.207, 205.236 through 205.239, and 205.270 through 205.272 may be established by the Administrator for the following reasons:

(1) Natural disasters declared by the Secretary;

(2) Damage caused by drought, wind, flood, excessive moisture, hail, tornado, earthquake, fire, or other business interruption; and

(3) Practices used for the purpose of conducting research or trials of techniques, varieties, or ingredients used in organic production or handling.

(b) A State organic program's governing State official or certifying agent may recommend in writing to the Administrator that a temporary variance from a standard set forth in subpart C of this part for organic production or handling operations be established: Provided, That, such variance is based on one or more of the reasons listed in paragraph (a) of this section.

(c) The Administrator will provide written notification to certifying agents upon establishment of a temporary variance applicable to the certifying agent's certified production or handling operations and specify the period of time it shall remain in effect, subject to extension as the Administrator deems necessary.

(d) A certifying agent, upon notification from the Administrator of the establishment of a temporary variance, must notify each production or handling operation it certifies to which the temporary variance applies.

(e) Temporary variances will not be granted for any practice, material, or procedure prohibited under § 205.105.

§ 205.105 Allowed and prohibited substances, methods, and ingredients in organic production and handling.

To be sold or labelled as "100 percent organic," "organic," or "made with organic (specified ingredients or food group(s))," the product must be produced and handled without the use of:

(a) Synthetic substances and ingredients, except as provided in § 205.601 or § 205.603;

(b) Non synthetic substances prohibited in § 205.602 or § 205.604;

(c) Non agricultural substances used in or on processed products, except as otherwise provided in § 205.605;
(d) Nonorganic agricultural substances used in or on processed products, except as otherwise provided in § 205.606;
(e) Excluded methods, except for vaccines, Provided, That, the vaccines are approved in accordance with § 205.600(a);
(f) Ionizing radiation, as described in Food and Drug Administration regulation, 21 CFR 179.26; and
(g) Sewage sludge.

UgoCert, Uganda Organic standards (2004)

2.1.3.1
Organic seed and plant materials of appropriate varieties and quality shall be used. When organic seed and plant materials are not available, conventional materials may be used provided that they have not been treated with pesticides not otherwise permitted by these standards.

After 2008 only organic sowing seed and plant material (both for annual and perennial crops) shall be used.

2.1.3.2
Seeds and plants collected from wild production, fulfilling the standards for in 1.4 (Minor Forest Products, wild harvested products and common/public land management) are considered being organic.

2.1.3.3
Where untreated conventional seeds and plant materials are not available, chemically treated seed and plant material may be used. The producer has to prove to UgoCert that chemically untreated seeds and plant material are not available.

Annex 2 The formal seed structures in Uganda Tanzania and Zambia.

Uganda

- In Uganda a Variety Release Committee is to formulate the policy on the allocation of seeds to breeders for the multiplication of seeds. The same committee establishes standards of varieties of seeds eligible for seeds certification.
- The National Seed Certification Service is responsible for the design, establishment and enforcement of certification standards, methods and procedures. It carries the responsibilities to advise on modification to seed standards, to provide training, to register and licence all seed producers, conditioners and dealers.

Plant breeding and registration

- "All imported and domestic varieties of seeds or breeding materials shall be tested for a minimum of three successive generations before their release".
- "All plant breeders and seed importers shall apply to the National Seed Certification Service for the release or listing of their varieties".
- "All plant breeders of private and public institutions and importers of varieties for seed production in Uganda shall be registered without payment.".

Multiplication and licencing

- "All seed producers shall be licensed annually upon application to the National Seed Certification Service".

Seed marketing

- "All seed offered for sale shall be properly labelled and sealed according with the specifications that may be set out in the regulations made under the Statute".
- "A person who intends to undertake the business of importing or exporting seeds shall apply to the National Seed Certification Service for a licence in the manner prescribed by regulations made under the Statute".
- "Only seeds of approved varieties and which –(a) meet standards established for domestic seed trade; -(b) comply with the importing country's requirements and –(c) are accompanied by a declaration of minimum certification standards on ISTA or domestic certifications and of phytosanitary certificate as provided in the Plant Protection Act, 1964, shall be imported into Uganda.

Offences and Miscellaneous

- If upon testing made pursuant to the provisions of this Statute it is reported in the report on the test by a Government seed testing station that the prescribed seed does not conform to the standards, then no person shall sell that prescribed seed for sowing.
- A person who sells any prescribed seed in contravention for the provisions of this section commits an offence.

Box 1: Relevant information for EPOPA from the Uganda Statute on seeds and plants.

Tanzania

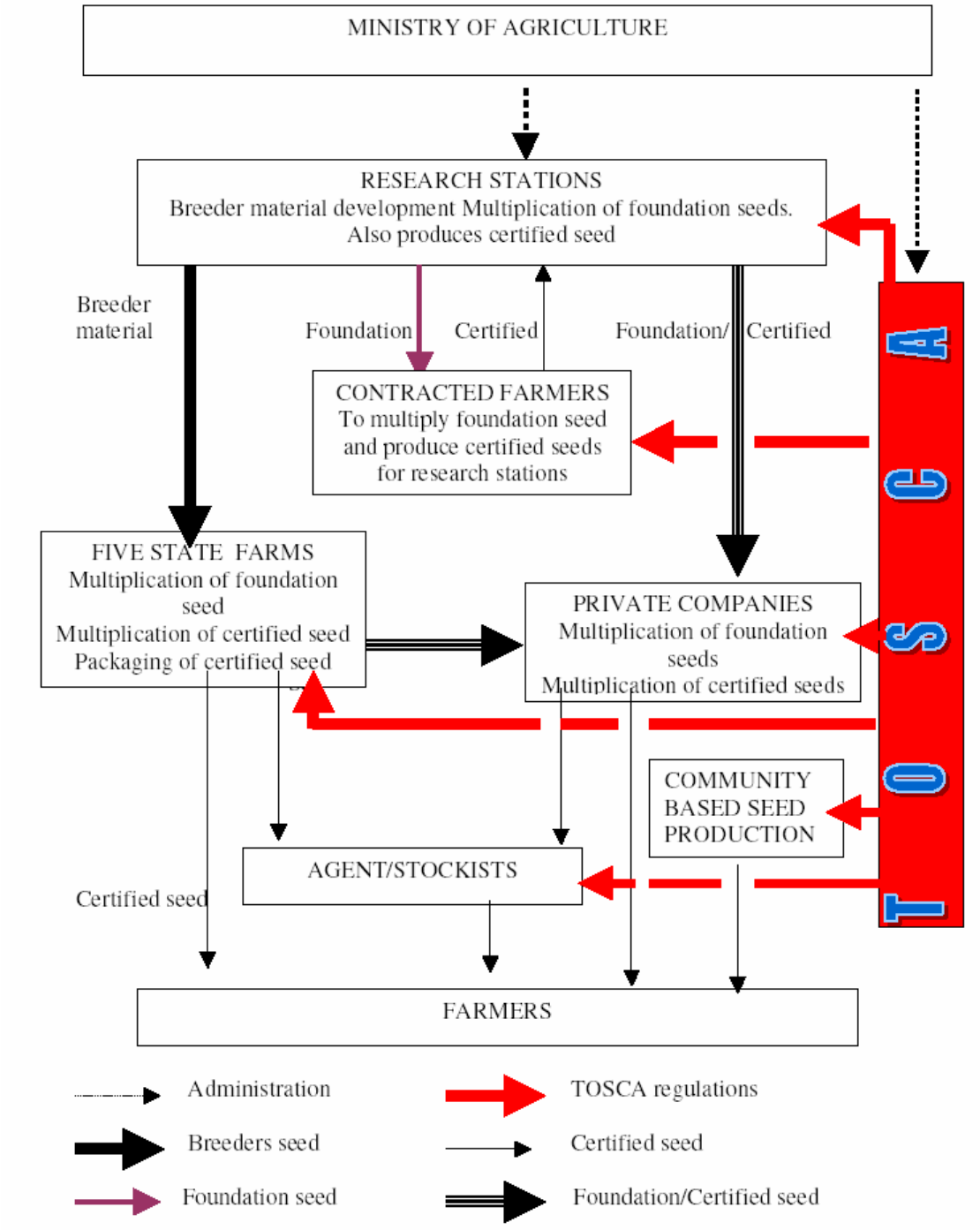
- TOSCA is responsible for establishing standards for all seed traded in the country, including trade between neighbouring households. Seeds that meet the standards can be classified as Quality Declared Seeds. Seeds that do not meet the standards can be classified as Common Grade Seeds. Production and sale of this grade of seed is discouraged.
- Seed growers must be registered by TOSCA to allow the possibility of field and harvest inspections.
- Only varieties formally released by the government of Tanzania (foundation seeds) are allowed to be multiplied for sale in the country. Correspondingly, producers of certified seeds are expected to purchase fresh foundation seed every year.
- All seed sold in the country should be packaged and labelled. Debates are going on if this is necessary for seed traded to neighbours.
- The seed producer has to pay the full costs of any field inspections (2 or 3 times a year) as well as the subsequent inspection of a sample seed lot.

Box 2: Relevant information for EPOPA taken from the Tanzania Seed Act no 29 of 1973.

In 1993, the government liberalized the production and sale of seed. More than 14 private seed companies have been registered to produce and/or sell seed in the country since. Access of farmers to improved seed varieties has been reduced as a result of the decline in the operations of TANSEED (Tanzania Seed Company) and the agricultural cooperatives. The seed companies have concentrated on conventional hybrid seeds of maize, sunflower, sorghum, beans, wheat and various horticultural crops.
TANSEED is involved in both foundation seed farms and certified seed production. TOSCA (Tanzanian Official Seed Certification Agency), the regulatory body, is responsible for quality control from the foundation seed farm stage up to the sale of certified seed to the farmers.

Following liberalization in Tanzania, the Seed Act was reviewed to reflect the current government policy of a free economy, and it is currently awaiting approval by Parliament. In figure 1, the structure of the liberalized seed industry in Tanzania is given.

Figure 1: Liberalized structure of Seed Industry in Tanzania



Source: Kavoi Mutuku Muendo and David Tschirley

Zambia

The Seed Control and Certification Institute is designated as the certifying authority and is responsible for the administration of the Plant Variety and Seeds Act. In the Zambian Seed Act, "Seed" is defined as follows: the part of any plant, customarily referred to as seed, intended for planting and includes seed potatoes. The policies relevant for EPOPA are listed in box 3.

Plant breeding and registration

- Seed growers have to register themselves for which the applicant has to pay a fee. The registration shall refer to the growing of one crop only.
- Only cultivators which have been approved by the Certifying Authority shall be eligible for certification.

Importation of seed

- No person shall import seeds for sale without a) a valid seed seller's licence: b) a notice to import seeds submitted and approved by the Certifying Authority: c) seeds complying with the minimum standards.

Seed marketing

- "No seed shall be offered for sale unless it has been certified or it has had its quality declared."
- Quality declared seeds conform to the standards set out in the Fifth Schedule of the Plant Variety and Seeds act (Subsidiary).
- "No species of seed set out in the Second Schedule (Maize, Sorghum, Wheat, Soyabean, Sunflower) shall be offered for sale unless it has been certified."
- "No person shall sell seeds without a seed seller's licence issued by the Certifying Authority."
- "Certified seed lots shall be packed in bags, securely closed, sealed by a seed inspector and labelled with a certification label."
- To sell, for sowing, prescribed seed a seed seller's licence is needed.

Box 3: Relevant information for EPOPA taken from the Plant Variety and Seed Act, Zambia.

Annex 3: Letters of registered companies

EPOPA received letter from the following companies confirming that they do not have any organic certified seed available.

1. Panner (South Africa)
2. East African Seed (U) Ltd. (Uganda)
3. Farm Inputs Care Centre (FICA) Ltd. (Uganda)
4. Rotian Seed Company Limited (Tanzania)
5. Hygrotech (Zambia)

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Rober Brian, Amfri farms Uganda
Dr. Bryan Featonby-Smith from Starke Ayres Seed Company based in South Africa. www.starkeayres.co.za

Development through organic trade

Since the early 1960s there has been a growing market in Europe, Japan and the USA for products grown in a sustainable manner and without the use of agro chemicals. The International Trade Center (ITC) estimated that this market would develop from US$ 13 billion in 1998 to US$ 40 billion by the year 2005. This has come about because consumers in developed countries are concerned about the possibility of environmental contamination in food products. Hence, they are willing to pay a premium price for certified organic products.

This is an ideal opportunity for African countries to find premium export markets. Therefore, the EPOPA programme – Export Promotion of Organic Products from Africa – was initiated by Sida in 1994. The programme has enabled African exporters to improve their businesses and helped thousands of farmers improve their livelihoods.

The first two phases of EPOPA-programme, 1994-2001 and 2002-2004, proved to be successful. In 2004, more than 29,000 smallholders participated. They received a 15-40% increase in price on their cash crops. Many farmers reported a significant increase of productivity due to more intensive crop management.

Farmers appreciate the extra attention and efforts of the field officers and generally respond by improving their farming methods.

Higher prices are achieved not only for meeting organic qualifications but also for better quality and in some cases because of more direct trading structures. In one project, the exporter was registered on the fair trade coffee register. The combination of all these three aspects resulted in a 50 to 100% increase in income.

An interesting trend is that higher organic prices create an upward trend for the conventional prices as their middlemen have to keep up with the better prices. Some of them have started to pay for better quality too.

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EXPORT PROMOTION OF ORGANIC PRODUCTS FROM AFRICA